



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

cel

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,330	02/24/2004	Yang-En Wu	ADTP0096USA	2329

27765 7590 05/04/2005

NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER

NGUYEN, THANH NHAN P

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/708,330	Applicant(s) WU, YANG-EN	
	Examiner (Nancy) Thanh-Nhan P. Nguyen	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8, 9-12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodate U.S. Patent No. 5,748,266 in view of Rho et al U.S. Patent No. 6,862,050, and further in view of Hirakata et al U.S. Patent Application Publication No. 2002/0109815.

Referring to claim 9, Kodate discloses a liquid crystal display comprising: a lower substrate (42) having a display area and a non-display area on an upper surface thereof, the lower substrate comprising: a plurality of scan lines (24) and a plurality of data lines (26), wherein the data lines are arranged perpendicular to the scan lines to form a pixel matrix in the display area, the pixel matrix comprising a plurality of pixels (10); a plurality of common electrodes (30) for transmitting a common voltage; an upper substrate (72) positioned on the lower substrate oppositely, the upper substrate comprising: a plurality of spacers (78) positioned on a bottom surface of the upper substrate for supporting a space between the upper substrate and the lower substrate; a conductive material layer (30) positioned on the bottom surface of the upper substrate covering the spacers; and a plurality of liquid crystal molecules (34) filled in the space

between the upper substrate and the lower substrate, with sealing member (64) [see figs. 8-9].

Kodate lacks disclosure of the spacers is photo spacers.

Rho et al discloses the spacers are photo spacers for the benefit of being able to place at the desired position and having uniform thickness, [see col. 8, lines 37-40]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to employ photo spacers for the benefit of being able to place at the desired position and having uniform thickness.

Kodate further lacks disclosure of a plurality of common electrode pads electrically connected to the common electrodes; wherein each of the photo spacers corresponds to one of the common electrode pads of the lower substrate; wherein the conductive material layer covering the photo spacers is connected to each of the common electrode pads corresponding to each of the photo spacers.

Hirakata et al discloses a plurality of common electrode pads (22) electrically connected to the common electrodes (21), or connected to common electrode (24) when considering the conductive material layer covering the spacers as discussed in Kodate reference; wherein each of the spacers corresponds to one of the common electrode pads of the lower substrate; and wherein the conductive material layer covering the spacers is connected to each of the common electrode pads corresponding to each of the spacers, [see fig. 8 in Kodate; fig. 13 in Hirakata et al], for the benefit of providing the common potential in the display inherently, [see pars. 0006, 0013]. Therefore, at the time the invention was made, it would have been obvious to a

person of ordinary skill in the art to have a plurality of common electrode pads electrically connected to the common electrodes; wherein each of the spacers corresponds to one of the common electrode pads of the lower substrate; and wherein the conductive material layer covering the spacers is connected to each of the common electrode pads corresponding to each of the photo spacers for the benefit of providing the common potential in the display.

Referring to claim 10, Kodate discloses the lower substrate (42) further comprises a plurality of TFTs (16) positioned on each intersection of the scan lines and the data lines as switching elements of the pixels, [see figs. 8-9].

Referring to claim 11, Kodate discloses a plurality of pixel electrodes (10) positioned in the pixels and electrically connected to the TFTs, [see figs. 8-9].

Referring to claim 12, Kodate discloses a plurality of color filters (32) positioned on the bottom surface of the upper substrate (72), wherein each of the color filters comprises a red color filter, a green color filter, and a blue color filter, [see fig. 8].

Referring to claim 14, Kodate discloses a polarizer (38) positioned on the upper surface of the upper substrate and a polarizer (38) positioned on the bottom surface of the lower substrate, [see fig. 8].

Referring to claim 15, Kodate discloses each of the pixels contains one of the photo spacers, [see fig. 8, and claim 1 rejection about "photo spacers"].

Referring to claim 16, Kodate discloses the conductive material layer (30) is a transparent ITO layer, [see col. 2, lines 1-3].

Claims 1-4 are met the discussion regarding claims 9-12 rejection above respectively.

Claims 6-8 are met the discussion regarding claims 14-16 rejection above respectively.

Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodate in view of Rho et al, and Hirakata et al U.S as discussed above, and further in view of Miyazaki et al U.S. Patent Application Publication No. 2002/0171800.

Referring to claim 13, Kodate lacks disclosure of a plurality of color filters positioned on the upper surface of the lower substrate, wherein each of the color filters comprises a red color filter, a green color filter, and a blue color filter.

However, the language of the claim regarding the use as a color filter for color liquid crystal display is an intended use limitation, as evidenced by Miyazaki et al, [see fig. 22], and therefore does not patentably distinguish the invention.

Claim 5 is met the discussion regarding claim 13 rejection above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kodate U.S. Patent No. 5,748,266 discloses a liquid crystal display comprising a conductive material layer positioned on the upper substrate covering the spacers.

Rho et al U.S. Patent No. 6,862,050 discloses the photo spacers in liquid crystal display.

Hirakata et al U.S. Patent Application Publication No. 2002/0109815 discloses a liquid crystal display comprising a plurality of common electrode pads electrically connected to the common electrodes.

Miyazaki et al U.S. Patent Application Publication No. 2002/0171800 discloses a liquid crystal display comprising a color filter on lower substrate.

Art Unit: 2871


Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 29, 2005

TN


ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800